

# ACCOUNTING AND AUDITING WITH BLOCK CHAIN TECHNOLOGY AND ARTIFICIAL INTELLIGENCE – AN EMPIRICAL STUDY

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## ***ABSTRACT***

This paper reviews published research on how blockchain technology can affect accounting and AI-enabled auditing, focusing on the characteristics of blockchain data such as immutability, append-only, shared, verified, and agreed-upon. The study identifies four subjects related to how blockchain has changed record-keeping in accounting, including event-based accounting, real-time data collection, accounting with three entries, and ongoing auditing. The findings suggest that blockchain can reduce information asymmetry and enhance stakeholder collaboration, but caution businesses about the challenges of adoption. The paper recommends future research to improve business practices and encourage collaboration among stakeholders to create suitable blockchain ecosystems for accounting and auditing in the digital age.

**Keywords:** Accounting, Artificial Intelligence, Blockchain Technology, Auditing

## **INTRODUCTION**

AI and automation are transforming the accounting industry by automating tasks and increasing efficiency. AI can generate reports, analyze financial data, create invoices, and spot patterns and anomalies that point to accounting fraud. While some accounting positions may be replaced by AI due to the automation of traditional tasks like data entry and audits, businesses can benefit from cost reductions and improved accuracy in financial reports. AI is the only software that can draw conclusions from large amounts of data and learn quickly in real time.

AI and automation are changing the accounting industry, and accountants can benefit by embracing these new technologies as tools to enhance their skills. AI can help with tasks such as data entry and analysis, budget forecasting, tax preparation, fraud detection, and policy enforcement, freeing up accountants to focus on more strategic business ventures. Additionally, accountants with expertise in specific fields, such as tax law or forensic accounting, will continue to be in demand. Overall, AI can help improve efficiency, accuracy, and cost-effectiveness in accounting, making it a valuable tool for businesses.

Importance of Artificial Intelligence:

**Automating Repetitive Tasks:** AI can automate many repetitive accounting tasks, such as data entry and reconciliation, freeing up accountants to focus on more strategic activities.

**Data Analysis:** AI can analyze vast amounts of financial data, identify trends, and generate insights that can help businesses make better financial decisions.

**Fraud Detection:** AI can be used to identify potential fraud by detecting anomalies in financial data and alerting accountants to potential issues.

**Risk Assessment:** AI can be used to assess the risk of financial transactions, helping businesses to identify potential risks and take proactive measures to mitigate them.

**Process Optimization:** AI can optimize accounting processes, reducing errors and improving efficiency.

**Predictive Analytics:** AI can use predictive analytics to forecast future financial performance, helping businesses to make informed decisions about investments and strategic planning.

### Blockchain Technology in Accounting:

One of the many blockchain applications that can simplify cumbersome accounting tasks is the smart contract. When certain conditions are met, transactions are carried out automatically with smart contracts. This assists bookkeeping experts and associations with computerizing position like finance and compromises. This would save associations on costs connected to manual section mistakes like regulatory costs. Additionally, this application protects businesses and customers from scams and fraud. One of the first famous blockchain applications was that it cut out the centerman while moving cash. For instance, you can send cash shared (P2P) without going through a Mastercard processor or bank. Even though the middleman adds costs to their services and slows down transactions, not all of them are bad. In order to safeguard both parties from fraud during the exchange of assets, the middle man plays a significant role. Miners, or public witnesses, keep this security in place on blockchains. Transaction verification is performed by miners rather than by a central authority. Using a consensus protocol, also known as a set of guidelines agreed upon by all parties, this is carried out safely.

Neither traditional accounting nor accountants are to be supplanted by blockchain accounting. Instead, it wants to have an effect on how the traditional accounting profession and record keeping work together. There'll in any case be holes where customary bookkeeping will be significant. Accounting firms and professionals, particularly auditors, will benefit from the use of blockchain in business audits. This would free up a lot of time for the accounting professional to focus on other things because a lot of audits involve verifying the occurrence and accuracy of financial records. As the blockchain is sufficient to prove many aspects of a conventional audit, blockchain technology will eliminate the need for paper trails.

### Importance of blockchain technology:

**Improved Transparency:** Blockchain technology provides a transparent and immutable record of transactions, making it easier for auditors and regulators to verify financial information. This can help reduce fraud and improve financial transparency.

**Increased Efficiency:** Blockchain technology automates many accounting processes, such as bookkeeping and auditing. This reduces the time and resources required for manual processes, allowing accountants to focus on more strategic activities.

**Enhanced Security:** Blockchain technology provides a highly secure platform for accounting transactions, using advanced encryption and consensus mechanisms. This reduces the risk of fraud and cyber-attacks.

**Smart Contracts:** Smart contracts are self-executing contracts with the terms of the agreement between buyer and seller being directly written into lines of code. This enables automatic execution of contracts when certain conditions are met, reducing the need for intermediaries and streamlining the accounting process.

**Cost Reduction:** By automating many accounting processes and reducing the need for intermediaries, blockchain technology can reduce costs for businesses and improve their bottom line.

**Auditing:** Blockchain technology makes auditing more efficient and reliable by providing an immutable and transparent record of transactions. This reduces the need for manual checks and balances, improving the accuracy and efficiency of the auditing process.

## LITERATURE REVIEW

Manlu Liu, Kean Wu, Jennifer Jie Xu (2019) has described in their study blockchain innovation isn't just a data framework in a solitary organization for a bunch of exchanges, yet is a foundation for business networks. A large community of stakeholders, including businesses, investors, auditors, tax authorities, and regulators, forms an ecosystem where information is transferred and shared as more people and organizations join a blockchain network. The expansion of a blockchain will increase the network's information security in permissionless blockchains, which lack a centralized authority.

Derrick Bonyuet (2020) this paper examines the viability of using Blockchain in auditing by bringing together key ideas. By doing so, it makes it possible for readers to get a good grasp on what has been researched and done so far regarding accountants. Blockchain, like every other technology, is changing, so the information in this paper might need to be changed soon. Other assertions, such as completeness, valuation, and classification, may also be satisfied by means of robust controls provided by "smart features," which are similar to Smart Contracts' built-in controls.

Aleksy Kwilinski (2019) The truthfulness and dependability of the database's information outweighs the

counterparty's confidence, making blockchain technology intrinsic to the significance of accounting property. Exchange happens provided that it has been supported by all members. With the assistance of organization bookkeeping can be converted into a safe, straightforward for all gatherings and simple to utilize design. The following are some of the benefits of using technology in accounting: Online transactions are quick and easy to use; Apps for smartphones can be used to update accounts; You can automate the entire process using optical data recognition systems, starting with the introduction of primary documents.

Nathalic, Gauthier Marion, Morin Jea-Henry, Salihi(2018) Although blockchain technology exhibits very interesting properties in those contexts (transparency, immutability, traceability, and integration of rules and procedures in the technology itself), audit and control professions are not in the spotlight in the current debate about the disruptive effect of blockchain. Applications like smart contracts and publicly-held registers, when combined with recent technological

advancements, process and service innovation, and other developments, have the potential to significantly alter audit and control procedures.

Marco Bellucci, Damiano Cesa Bianchi, Giacomo Manetti(2022) The primary objective of this study was to identify potential avenues for additional research and to conduct a literature review on the application of blockchain in accounting practice and research. The main findings regarding accounting and auditing (first cluster) state that blockchain immutability is definitely something that accountants and auditors would like, that it should help prevent earnings manipulation, and that it should ensure the accuracy of data and information. However, blockchain technology has the potential to provide a number of additional benefits, including the ability to perform real-time accounting and continuous auditing, the elimination of the requirement for reconciliation, and the reduction of repetitive tasks.

Irina Bogdana PUGNA, Adriana DUTESCU(2020) We provide a comprehensive overview of blockchain and its potential to improve accounting practice in this paper. Our research has demonstrated that this issue is still in its infancy. Although blockchain is one of the most groundbreaking technologies currently available, realizing its full potential requires more than just technological advancements. While scalability, latency, privacy, security, and authentications are widely acknowledged to be significant roadblocks to the maturation of blockchain, organizational and human issues persist. However, implementing a blockchain solution at the organizational level requires these. Blockchain technology will become an essential part of the ecosystem for information technology as theoretical applications evolve into successful proofs of concept.

Bojana, Teodora, Dejan (2023) Digitalization suggests the arising advancements utilization to make another business model with open doors for money and added esteem creation. Through the transformation of audit firms into digital ones that make use of cutting-edge analytical and robotic tools, digitization has an effect on the improvement of audit quality. By providing IT-oriented audit services and requiring competencies in a variety of technologies, a new auditor profile has been created. New risks, difficulties, and opportunities for the practice of accounting and auditing are brought about by digital technologies led by Big Data analytics, artificial intelligence, blockchain technology, robotic process automation, and others.

Maryam Akhajah(2022) The areas of financial accounting practices that are lacking in businesses as a result of the implementation of conventional methods in their financial management are the focus of the current study's analysis. The study also looks at the technologies that businesses can use to overcome the drawbacks of older, more conventional technologies. Current research helps businesses that want to improve their businesses through digitalization by analyzing the areas that would benefit from digitalizing financial accounting practices. The in-depth discussion of the factors that encourage businesses to implement cutting-edge technologies enables readers to gain an understanding of the requirements businesses must meet to bring financial accounting practices benefits.

Yang, Zecheng Yin (2021) The financial system's impact on blockchain technology is the subject of discussion and analysis in this paper. Blockchain technology has a lot to offer the banking industry, but these obstacles must be overcome before it can have an impact. In any case, new rules governing the use of this technology should be monitored by the banking sector. Store

network the executives methodologies, arranging, and execution are progressively subject to the ability of bookkeepers. The group in charge of supply chain design, development, and implementation needs the assistance of the accountant. For the benefit of both individuals and organizations, security rules must be followed.

Laura Corazza, Junru Zhang, Dihani Kapu(2023) Based on the design of future scenarios that incorporate blockchain thinking (BT) into sustainability reporting and disclosure, this paper offers a conceptual discussion. Sustainability

reporting may be a solution when information asymmetry is overcome by a balanced involvement of all parties in the disclosure process. Scholars from sustainability management and social science are increasingly calling for an emancipatory change that gives stakeholders more transparency and reliability. The lack of research and empirical evidence on the application of blockchain to sustainability reporting makes this study significant.

Musbaudeen Titlope Oadejo (2020) Because BCT is such a new phenomenon, there are numerous things that need to be improved as technology advances. Accounting research should place a strong emphasis on some intriguing theoretical issues moving forward. It is anticipated that becoming a node in a BCT network will make it possible for external auditors to monitor the financial transactions of their clients 24 hours a day, seven days a week, in real time. It would be fascinating to be aware of the ramifications of this on the jobs of inside reviewers. Future exploration would look at the jobs of inward reviewers on the off chance that an outside evaluator or review firm turns into a hub in a BCT organization. Based on the design of future scenarios that incorporate blockchain thinking (BT) into sustainability reporting and disclosure, this paper offers a conceptual discussion.

Mohammad Abul Kashem, Mohammad Shamsuddoha, Tasnuba Nasir Asma Akter Chowdhury (2023) The study's main focus was on using AI and blockchain to prevent disruptions in the supply chain. This study looked at how the use of blockchain technology affected the transparent and tamper-proof validation and documentation of transactions between multiple parties. The model benefited from the job of both blockchain and computer-based intelligence to interface mysterious members to manage private and secure exchanges with each other without the requirement for a mediator. In addition, the goals of this study were to boost supply chain performance while simultaneously protecting the operations from malicious actors.

Bojana Vukovljak, Nina Peter (2023) The investigation of this paper shows a rising relationship between the review calling and Blockchain. It backs up the fundamental idea that Blockchain will become more important and simplify auditing work. The academic community is gradually associating the profession of auditors with Blockchain technology, as evidenced by the rising number of publications in reputable, peer-reviewed journals like Scopus.

Ayman Mohammad Al Shanti, Mohammad Salim Elessa (2022) The purpose of the study was to investigate and ascertain how the virtual shift toward using blockchain technology in Jordanian banks improved accounting data quality and company governance efficacy. The questions on the questionnaire were broken up into sections called "Quality of Accounting Information," which include questions about evaluating both the primary and secondary hypotheses. The testing of the third and fourth hypotheses is complicated by the effectiveness of corporate governance. The imposition of nothingness was rejected and the opportunity speculation was accepted after statistical analysis of responses to the questionnaire listing questions for the primary speculation. As far as reception, the virtual upset towards utilizing the blockchain period in Jordanian banks brings about the advancement of bookkeeping measurements.

Jaehyeon Kim, Sejong Lee, Yushin Kim (2023) With a heterogeneous transaction graph, we proposed graph learning-based blockchain phishing account detection in this paper. We proposed a clever diagram structure called ATGraph, which addresses exchanges as hubs to dispense with the multi-edge. Algorithms for graph learning that take ATGraph as their input are able to effectively embed a graph structure. We led tests looking at Ethereum phishing account identification execution among ATGraph and homogeneous exchange charts.

Wenzhong Yang (2023) This study used the improved two-layer EGAT model for classification and a straightforward star subgraph to identify Ethereum phishing account nodes. The results were positive. The subgraph properties were effectively manifested by the manually created features made with basic transaction data. With feature attention, EGAT can learn the graph's feature weight automatically and avoid losing edge features. The last trial results show that the better plan in this study succeeds in Exactness, Accuracy, Review, and F1-score, separately, particularly contrasted and other gauge calculations. Hence, it is achievable to utilize the EGAT phishing recognition in Ethereum, which can effectively distinguish the phishing accounts to work on the security and dependability of Ethereum.

Shouyu Li (2023) Intelligent logistics is a new type of logistics that automates identification, traceability, intelligent optimization and decision-making, and real-time response across the entire logistics industry chain. It is referred to as an advanced business model for the logistics industry of the future. Empowerment with blockchain technology enables a novel logistics financial system solution, effectively addresses the trust issue in logistics communication, reshapes logistics operation service mode, and modifies future contract rules.

Rehab Esam (2023) This study zeroed in on the effect of blockchain innovation on the nature of the review interaction as one of the significant procedures created by the computerized change climate, expanding on the



writing audit. The review shed light on electronic review in the computerized change climate and checked on the elements that emphatically influence thereception of the advanced review source.

Tassilo Lars(2020)The AI-CC Cuboid was created in response to the lack of systematic approaches for the categorization and classification of AI technologies within the risk-based audit approach and the growing significance of using AI technologies. The risk-based audit approach is first categorized and categorized for AI technologies using the method's first systematic and structured approach. Within the context of a risk-based audit, SME was utilized to develop the central artifact under the DSR lens. The simulated intelligence CC Cuboid gives a precise technique point by point direction with respect to the order and characterization of simulated intelligence Innovations as one focal part.

Aneta Zemankova(2019) According to the research that was carried out, artificial intelligence in accounting and audit has a significant potential to increase efficiency, reduce errors, and give accountants and auditors more time to focus on more complex and value-added tasks rather than

those that are repetitive, time-consuming, and based on rules. Savvy review methods and shrewd agreements could address the eventual fate of effective mechanized execution of both deals and review errands. Be that as it may, there are as yet different subjects in regards to man-made brainpower to be explored, for example, how to dissect expenses and advantages of computerized reasoning tasks, how much can review judgment be mechanized or whether review populaces are huge enough examples for profound learning.

Joanna Gusc, Peter Bosma(2022) The study looked at a novel idea for using IT to deal with TCA problems. It collected opinions from a diverse group of relevant stakeholders, IT specialists, sustainability and energy experts, and accountants in the European energy market using an innovative, multinational, and multidisciplinary strategy; specifically Germany, Poland, and the Netherlands. It demonstrated the ready-to-use technical viability of big data infrastructure that identifies patterns, allocates costs to cost objects, measures TCA impacts, and reduces negative challenges. It also identified obstacles to financing and the potential standardization of TCA practices as problems that must be resolved before actual adoption can begin.

Yingying Zhang(2020) Reengineering accounting procedures, reducing accounting information errors and distortions, improving accounting efficiency, and promoting the transformation of accounting career structures are just some of the significant changes that have been brought about by the extensive integration of emerging technologies like big data, ML, AI, and blockchain into the accounting field. Since this article audits new advancements in accounting, future uses of new innovations, for example, blockchain are additionally talked about in this review. For instance, with the assistance of blockchain review application stages, huge scope and continuous computerized reviews can be determined.

Emilio Abad-Segura(2021) The fundamental goal is to look at the ebb and flow and arising lines of exploration at a worldwide level on BC innovation for secure bookkeeping the board, somewhere in the range of 2016 and 2020. A sample of 1130 scientific articles from Elsevier's Scopus database was analyzed using mathematical and statistical methods. The main current and future research directions on this subject were basically identified. Comparable to the early topical, a polynomial pattern is seen in the worldwide distribution, with 60% of the complete example in 2020, affirming the interest of the scholar and academic local area. The following are the seven primary lines of inquiry that were discovered: Blockchain, network security, information management, digital storage, edge computing, commerce, and the Internet of Things are just a few of the topics covered.

Ahmed Rizvan Hasan(2022) According to some technology analysts, machines will eventually take over anything that can be turned into data. Imagination and judgment, on the other hand, are human faculties that frequently set one organization apart from another. Like databases and spreadsheets, AI is only useful if people know how to use it to simplify business processes. When it comes to exercising human creativity and judgment, artificial intelligence cannot replace accountants and auditors. The profession's historical approaches and ways of thinking will continue to be put to the test by technological, regulatory, and economic shifts, which is a positive development. The market's reaction to these changes will eventually impact how reviews are completed.

Wenyu Zhang, Mengpu Zhu(2022) The Paillier cryptographic system and cloud storage are utilized to expand blockchain storage and safeguard the privacy of shared data. If the Paillier cryptosystem is applied to the blockchain, classified data can be successfully safeguarded and the security assurance issue of the blockchain can be addressed. The Paillier cryptosystem of the same type is faster and more effective when operating ciphertext. As per the examination, it is shown that this plan has high security. Beginning with the four steps of economic business confirmation, measurement, recording, and presentation, applying blockchain technology to the accounting process

has the potential to improve communication between accounting information and economic behavior and restore accounting information to its essence. Financial data can be connected to currency cash flow and the internet of things in real time with the assistance of such an accounting model that is based on blockchain technology.

Amit Kumar Tyagi, Aswathy S U, Ajith Abraham(2020) Innovations in AI and machine learning(ML) hold a lot of promise for bringing significant benefits to human society. However, the new AI/ML model is fundamentally flawed, and violence is widespread due to biased databases, centrally managed structures, and empowered users. Blockchain technologies like self-sovereign identities, solid consensus processes, decentralization, ultra-secure and immutable ledgers, and rebalance and improve AI and ML algorithms have a lot of potential. Additionally, by utilizing a Blockchain-based system, we will be able to envision a better future as the Internet shifts from human-to-bot interactions. In a nutshell, the combination of Blockchain, artificial intelligence (AI), machine learning, and big data is significantly superior to either of these innovations on their own, particularly in relation to particular industries like energy and computers. It is likely that the mix will have an innovative effect.

## RESEARCH METHODOLOGY:

Objectives:

To study the usage of blockchain technology and artificial intelligence

To analyze the importance of Blockchain and its possible impact on accounting To determine the role of blockchain in improving accounting and auditing

Research Design:

The descriptive research design is selected for this study to obtain appropriate information. This research is conducted in the accounting firms.

Sample Size and method:

The sample size is consists of around 200 responses. The data is collected through the google form, which was circulated to the various accounting firms. The collected data is analyzed and interpreted with the help of tables.

Scope of the study:

The study helps to get the information about the use of blockchain technology and artificial intelligence in accounting and auditing field. It helps to know the respondents view about the blockchain technology in accounting and auditing firms.

Sources of Data:

The sources of data is primary data. In this survey the primary data are collected through the questionnaire. The primary data is accurate, as these data are original. The questionnaire was circulated through google form, which consists of some questions with the various firms of accounting and auditing.

## DATA ANALYSIS AND INTERPRETATION:

### 4.1 Descriptive Analysis:

**Table 1: Age**

Age					
		Frequency	Percent	Valid Percent	CumulativePercent
	18-25 years	93	46.5	46.5	46.5
	25-35 years	79	39.5	39.5	86.0
	35-45 years	23	11.5	11.5	97.5
	45-55 years	5	2.5	2.5	100.0
	Total	200	100.0	100.0	

Valid					
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(Sources: Research Output)

Interpretation:

From the above table and graph, it can be concluded that, out of all responses received based on age factor, majority of people fall under the age group of 18-25 years i.e., 93(46.5%) out of total respondent. Apart from this, 79(39.5%) people fall under the age group of 25-35 years and few people fall under the age group of 35-45 years i.e., 23(11.5%) and in 45-55 years of age group, only 5(2.5%) people are there.

Table 2: Use of Blockchain Technology in Organizations

Use of Blockchain Technology in organizations					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	105	52.5	52.5	52.5
	No	49	24.5	24.5	77.0
	Maybe	46	23.0	23.0	100.0
	Total	200	100.0	100.0	

(Sources: Research Output)

Interpretation:

From the above table and graph, it can be concluded that 105(52.5%) respondent of accounting and auditing firms uses the Blockchain Technology and 49(24.5%) respondent's organization has not yet adopted the Blockchain Technology in their organization. Apart from this, 46(23%) respondent are not aware about the blockchain technology is used by their organization or not, they might be the new joiners.

Table 3: Blockchain Technology used in organization upto the appropriate extent

Blockchain Technology Usage					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Currently experimenting blockchain technology	75	37.5	37.5	37.5
	Developing Prototype applications	73	36.5	36.5	74.0
	Expect to have blockchain technology in next 12 months	52	26.0	26.0	100.0
	Total	200	100.0	100.0	

(Sources: Research Output)

Interpretation:

From the above table and figure, it can be interpreted that, 75(37.5%) respondent is currently experimenting the blockchain technology, 73(36.5%) are developing prototype applications and 52(26%) are expecting to have it in next 12 months.

#### 4.2 Inferential Analysis:

**Table 4: The influence of Artificial Intelligence in accounting scars with Usage of Accounting Software**

Chi-Square Tests				
		Value	df	Asymp. Sig. (2-sided)

Pearson Chi-Square	21.203 <sup>a</sup>	12	.047
Likelihood Ratio	27.153	12	.007
Linear-by-Linear Association	.000	1	.990
N of Valid Cases	200		

a. 6 cells (30.0%) have expected count less than 5. The minimum expected count is 1.13.

(Sources: Research Output)

Interpretation:

H0: There is statistically no significant association between the influence of Artificial Intelligence in accounting scars and the usage of accounting software.

H1: There is a statistically significant association between the influence of Artificial Intelligence in accounting scars and the usage of accounting software.

This means that the two variables are related, and the level of usage of accounting software could influence the perception of the influence of AI in accounting scars ( $p < .05$ ).

Overall, this suggests that organizations that use accounting software may have different perceptions of the influence of AI in accounting scars compared to those that do not use accounting software. However, further analysis is required to determine the nature of this relationship.

Table 5: Blockchain can help improve the future \* Not worried about the security of data

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.479 <sup>a</sup>	16	.080
Likelihood Ratio	27.921	16	.032
Linear-by-Linear Association	.680	1	.410
N of Valid Cases	200		

a. 10 cells (40.0%) have expected count less than 5. The minimum expected count is .32.

(Sources: Research Output)

Interpretation:

H0: There is no association between the variables Blockchain can help improve the future and not worried about the security of data.

H1: There is some evidence of an association between the variables Blockchain can help improve the future and Not worried about the security of data.

The p-value for the Pearson Chi-Square test is 0.08, which is slightly above the commonly used threshold of 0.05 for statistical significance. However, it is important to note that 10 cells (40%) have expected count less than 5, which could potentially affect the validity of the test.

Looking at the count table, it appears that those who are not worried about the security of data are more likely to agree that blockchain can help improve the future. However, the differences between the groups are not very large, and there is a relatively high proportion of respondents who are neutral on both variables. Overall, while there may be some association between these variables, the evidence is not very strong.

Table 6: Blockchain Technology Usage with Improved Efficiency

### Symmetric Measures



		Value	Asymp. Std. Error <sup>a</sup>	Approx. T <sup>b</sup>	Approx. Sig.
Interval by Interval	Pearson's R	-.035	.071	-.488	.626 <sup>c</sup>
Ordinal by Ordinal	Spearman Correlation	-.038	.071	-.541	.589 <sup>c</sup>
N of Valid Cases		200			
a. Not assuming the null hypothesis.					
b. Using the asymptotic standard error assuming the null hypothesis.					
c. Based on normal approximation.					

(Sources: Research Output)

### Interpretation:

The correlation between the two ordinal variables, blockchain technology usage, and improved efficiency, can be assessed using either Pearson's R or Spearman's correlation coefficient.

A measure of the linear correlation between two variables and assumes that the relationship between the two variables is linear. In this case, it is -0.035, indicating a weak negative correlation between blockchain technology usage and improved efficiency. However, the p-value (0.626) is greater than 0.05, indicating that the correlation is not statistically significant.

In this case, it indicates a weak negative correlation. However, like it the p-value (0.589) is greater than 0.05, indicating that the correlation is not statistically significant.

Therefore, based on the crosstabulation and the symmetric measures, there is a weak negative correlation between blockchain technology usage and improved efficiency, but this correlation is not statistically significant.

### FINDINGS:

The project was conducted basically with the primary data and the data consists of around 200 responses of Accounting and Auditing firms. The majority of respondents fall under the age group of 18-25 years, accounting for 46.5% of the total respondents, followed by 25-35 years with 39.5%, while the 35-45 and 45-55 age groups accounted for 11.5% and 2.5% respectively. The table presents the gender distribution of a sample of 200 individuals, comprising 55.5% males and 44.5% females.

The table presents the usage of blockchain technology in accounting and auditing firms, with 52.5% of respondents reporting its usage, 24.5% not having adopted it yet, and 23% being unsure of its usage status, potentially due to being new employees. The table and figure show that among the respondents, 37.5% are currently experimenting with blockchain technology, 36.5% are developing prototype applications, and 26% are expecting to have it in their organizations within the next 12 months.

The chi-square test found no significant association between gender and the use of blockchain technology in organizations, with a p-value of .084. However, further analysis may be needed to fully understand any potential gender-related differences in adoption. The chi-square test was performed to determine if there is a significant association between age and usage of accounting software. The results suggest that there is no significant association between the two variables at the 0.05 level of significance. However, the reliability of the results may be compromised due to the violation of the expected cell count assumption in some cells.

The study found no significant relationship between the perceived harmfulness of artificial intelligence and the changing demands of accountants related to its use. The p-value of .673 was greater than the significance level of .05, indicating that the null hypothesis cannot be rejected.

The chi-square test indicates that there is no significant association between the benefits of blockchain technology in the future and financial transaction management. The p-value is greater than the significance level, so we fail to reject the null hypothesis.

The hypothesis suggests that there is a significant relationship between the influence of AI in accounting scars and the usage of accounting software. The results of the test show that there is a significant association between the two

variables ( $p < .05$ ). Therefore, the usage of accounting software could influence the perception of the influence of AI in accounting scars. Further analysis is needed to understand the nature of this relationship.

The hypothesis suggests that there is a relationship between Blockchain improving the future and not being worried about data security. The p-value for the test is slightly above 0.05, indicating weak evidence of association. There is a higher likelihood of agreement with the statement that blockchain can help improve the future among those not worried about data security. However, there is a high proportion of respondents who are neutral on both variables. The validity of the test may also be affected by low expected counts in some cells.

The ANOVA table shows that there is a statistically significant difference between the means of the groups in the use of blockchain technology in organizations, indicating that H1 is accepted. The linear term is significant, suggesting a linear trend in the data, but deviation from linearity is not significant. The results suggest an increasing use of blockchain technology in organizations over time.

There is a weak negative correlation between blockchain technology usage and improved efficiency, as measured by either Pearson's R or Spearman's correlation coefficient. However, in both cases, the p-value is greater than 0.05, indicating that the correlation is not statistically significant.

The symmetric measures table shows a statistically significant positive correlation between the use of blockchain technology in organizations and the level of engagement with blockchain technology. This suggests that those who are currently experimenting or developing prototype applications with blockchain technology are more likely to use it in their organizations than those who expect to have it in the next 12 months or do not plan to use it.

## CONCLUSIONS:

The study provides a comprehensive review of how blockchain technology is transforming recordkeeping in accounting. Blockchain technology enables the creation of auditable and consensus-driven data, which can enhance audit effectiveness with the use of Artificial intelligence tools. The review employs agency and stakeholder theories to explain how blockchain-enabled accounting can promote information transparency and involve all stakeholders in the collaboration process. However, there are risks associated with adopting this evolving technology, and further research is needed to explore its applications and address technical, organizational, and regulatory challenges. The study concludes by highlighting several research questions that can expand the existing blockchain literature and guide the development of blockchain-based accounting information systems and AI-enabled auditing. Ultimately, the widespread adoption of blockchain technology in accounting will require standardization, improvement, and regulatory support to ensure its integration into the financial system.

The summary provides an overview of several findings from a study related to blockchain technology, accounting, and auditing. It includes information on the gender distribution of the sample, the usage of blockchain technology in accounting and auditing firms, and the level of engagement with blockchain technology among respondents. The summary also highlights the results of various statistical tests, including chi-square tests and ANOVA, which were conducted to determine the relationship between different variables. Overall, the study found a positive correlation between the use of blockchain technology in organizations and the level of engagement with the technology.

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